Amendments to the Claims

Please amend claims 6, 29, 33 and 37. The currently pending claims are listed below.

1 - 5. (Cancelled)

6. (Currently Amended) A computer-implemented method for managing access to computer resources, the method comprising:

(a) defining a respective valuation of each of a plurality of work items to be processed by one or more data processing systems;

(b) comparing the respective valuation of each respective said work item to a respective cost of accessing additional computer resources necessary to process the work item in a current time period, said additional computer resources being external to said one or more data processing systems;

(c) with respect to each said work item for which the respective valuation of the work item exceeds the respective cost of accessing additional computer resources necessary to process the work item in the current time period, dynamically accessing additional computer resources necessary to process the work item in the current time period;

(d) with respect to each said work item for which the respective valuation of the work item does not exceed the respective cost of accessing additional computer resources necessary to process the work item in the current time period, deferring processing of the work item to a subsequent time period; and

(e) repeating said (b) through (d) in one or more subsequent time periods with respect to each said work item deferred by said (d) until each said work item has been processed.

7. (Original) The method of claim 6 further comprising applying a valuation heuristic to each work item.

8. (Original) The method of claim 6 further comprising applying a priority algorithm for preventing starvation of computer resources to those work items which have been delayed, whereby the processing of all the work items in a program is completed.

9. (Original) The method of claim 7 further comprising having the priority algorithm increase respective valuations of delayed work items so as to complete processing of each of the work items prior to or at a cut-off processing date of the work item.

10 - 22. (Cancelled)

23. (Previously Presented) A method of providing fee-based processing for programs in a processor system, whereby fees are based on utilization of computer resources for completing processing a program, the processor system including at least one processor; a memory coupled to the at least one processor, and a scheduling manager residing in the memory, the method comprising the steps of:

(a) defining a respective valuation of each of a plurality of programs to be processed;

(b) comparing the respective valuation of each respective said program to a respective projected fee for utilization of computer resources to process said program in a current time period;

(c) with respect to each said program for which the respective valuation of the program exceeds the respective projected fee for utilization of computer resources to process the program in the current time period, dynamically accessing computer resources to be applied to process the program in the current time period;

(d) with respect to each said program for which the respective valuation of the program does not exceed the respective projected fee for utilization of computer resources to process the program in the current time period, deferring processing of the program to a subsequent time period; and

(e) repeating said (b) through (d) in one or more subsequent time periods with respect to each said program deferred by said (d) until each said program has been processed; and

(f) assessing a fee for the dynamically accessed computer resources to be used.

24. (Original) The method of claim 23 further comprising applying a valuation heuristic to each work item for establishing the valuation of each work item.

25. (Original) The method of claim 24 further comprising applying a priority algorithm for preventing starvation of computer resources to those work items which have been delayed, whereby the processing of all the work items in a program is completed.

26. (Original) The method of claim 25 wherein the dynamic determination is based on different attributes of the one or more work items forming at least part of a program.

27. (Cancelled)

28. (Previously Presented) The method of claim 6, wherein said method is used in a networked environment including a grid of computing resources, and a request manager of the grid to receive requests of one or more customers for utilization of computing resources of the grid; wherein said additional computer resources comprise computing resources of said grid of computing resources; wherein one or more computer systems of a customer is coupled to the request manager and include one or more processors; a memory coupled to at least the one processor; and, a scheduling manager residing in the memory and executable by the at least the one processor.

29. (Currently Amended) ~~An~~ A data processing apparatus comprising:

at least one processor;

a memory coupled to the at least one processor; and

a scheduling manager residing in the memory and executable on the at least one processor, the scheduling manager dynamically managing access of each of a plurality of work items to additional computer resources ~~other than the at least one processor~~ external to said data processing apparatus for processing the respective work item, each said work item being a respective item of work performable by a data processing system and having a respective valuation;

wherein said scheduling manager, in each of a plurality of time periods, compares the respective valuation of each unprocessed work item to a respective cost of accessing said additional computer resources to process the work item in the respective time period, and with respect to each said work item for which the respective valuation exceeds the respective cost of accessing the additional computer resources to process the work item in the respective time period, dynamically accesses the additional computer resources to process the work item in the respective time period; and with respect to each said work item for which the respective valuation does not exceed the respective cost of accessing the additional computer resources to process the work item in the respective time period, defers processing of the work time to a subsequent time period.

30. (Previously Presented) The apparatus of claim 29 wherein the scheduling manager applies a valuation heuristic to each work item.

31. (Previously Presented) The apparatus of claim 29 wherein the scheduling manager applies a priority algorithm for preventing starvation of computer resources to those work items which have been deferred, whereby the processing of all the work items is completed.

32. (Previously Presented) The apparatus of claim 31 wherein the priority algorithm increases respective valuations of delayed work items so as to complete processing of each of the work items prior to or at a cut-off processing date of the work item.

33. (Currently Amended) A program product comprising:

a scheduling manager embodied as a plurality of computer-executable instructions recorded on ~~tangible~~ a computer-readable ~~media~~ storage medium, wherein said scheduling manager, when executed by a computer system, ~~instructions cause~~ causes the computer system to:

(a) compare a respective defined valuation of each of a plurality of work items to be processed by the computer system to a respective cost of accessing additional computer resources necessary to process the work item in a current time period, said additional computer resources being external to said computer system;

(b) with respect to each said work item for which the respective valuation of the work item exceeds the respective cost of accessing additional computer resources necessary to process the work item in the current time period, dynamically accesses additional computer resources necessary to process the work item in the current time period;

(c) with respect to each said work item for which the respective valuation of the work item does not exceed the respective cost of accessing additional computer resources necessary to process the work item in the current time period, defers processing of the work item to a subsequent time period; and

(d) repeats said (a) through (c) in one or more subsequent time periods with respect to each said work item deferred by said (c) until each said work item has been processed.

34. (Previously Presented) The program product of claim 33 wherein the scheduling manager applies a valuation heuristic to each work item to establish a valuation for each of the work items.

35. (Previously Presented) The program product of claim 33 wherein the scheduling manager applies a priority algorithm for preventing starvation of computer resources to those work items which have been delayed, whereby the processing of all the work items in a program will be completed.

36. (Previously Presented) The program product of claim 35 wherein the priority algorithm increases respective valuations of delayed work items so as to complete processing of each of the work items prior to or at a cut-off processing date of the work item.

37. (Currently Amended) A networked environment, comprising:

a grid of computing resources;

a request manager of the grid to receive requests of one or more customers for utilization of computing resources of the grid;

one or more computer systems of a customer coupled to the request manager; the one computer system comprising one or more processors;

a memory coupled to at least the one processor of the one computer system; and,

a scheduling manager residing in the memory and executable on the at least one processor, the scheduling manager dynamically managing access of each of a plurality of work items to additional computer resources ~~other than the at least one processor~~ external to said one or more computer systems of a customer for processing the respective work item, each said work item being an item of work performable by a data processing system and having a respective valuation;

wherein said scheduling manager, in each of a plurality of time periods, compares the respective valuation of each unprocessed work item to a respective cost of accessing said additional computer resources to process the work item in the respective time period, and with respect to each said work item for which the respective valuation exceeds the respective cost of accessing the additional computer resources to process the work item in the respective time period, dynamically accesses the additional computer resources to process the work item in the respective time period; and with respect to each said work item for which the respective valuation does not exceed the respective cost of accessing the additional computer resources to process the work item in the respective time period, defers processing of the work time to a subsequent time period.

38. (Previously Presented) The environment of claim 37 wherein the scheduling manager applies a valuation heuristic to each work item.

39. (Previously Presented) The environment of claim 37 wherein the scheduling manager applies a priority algorithm for preventing starvation of computer resources to those work items which have been delayed, whereby the processing of all the work items in a program is completed.

40. (Previously Presented) The environment of claim 39 wherein the scheduling manager increases respective valuations of delayed work items so as to complete processing of each of the work items prior to or at a cut-off processing date of the work item.

41. (Previously Presented) A computer-implemented method for managing access to computer resources, the method comprising:

(a) providing a plurality of work items for processing by one or more data processing systems in a current time period, each work item having a respective valuation;

(b) selecting a first subset of said plurality of work items for processing by a first data processing system in the current time period according to said valuations;

(c) with respect to each said work item not included in said first subset, comparing the respective valuation of the work item to a respective cost of accessing additional computer resources external to said first data processing system to process the work time in the current time period;

(d) with respect to each said work item not included in said first subset for which the respective valuation of the work item exceeds the respective cost of accessing additional computer resources external to said first data processing system to process the work item in the current time period, dynamically accessing additional computer resources external to said first data processing system to process the work item in the current time period;

(e) with respect to each said work item not included in said first subset for which the respective valuation of the work item does not exceed the respective cost of accessing additional computer resources external to said first data processing system to process the work item in the current time period, deferring processing of the work item to a subsequent time period; and

(f) repeating said (a) through (e) in multiple time periods, wherein any work item deferred by (e) is included in the plurality of work items of each subsequent time period until the work item is processed, and wherein for at least some time periods, the first subset of the respective plurality of work items includes fewer than all of the respective plurality of work items.

42. (Previously Presented) The method of claim 41 further comprising applying a priority algorithm for preventing starvation of computer resources to those work items which have been deferred, whereby the processing of all the work items is completed.

43. (Previously Presented) The method of claim 41, wherein said method is used in a networked environment including a grid of computing resources, and a request manager of the grid to receive requests of one or more customers for utilization of computing resources of the grid; wherein said additional computer resources comprise computing resources of said grid of computing resources.